EXECUTIVE SUMMARY
AIRCRAFT ACCIDENT INVESTIGATION BOARD
F-15C, S/N 78-0482
KADENA AB, JAPAN
31 JULY 2002

On 31 July 2002, at 1502 local time (0602Z), an F-15C, S/N 78-0482, assigned to the 44th Fighter Squadron (FS), 18th Wing, Kadena AB, Japan, experienced catastrophic engine failure in the #1 (left) engine while preparing to taxi. The mishap pilot (MP) suffered no injuries. Several maintenance troops experienced minor, temporary reactions to Halon exposure while extinguishing the fire. There was no property damage or injuries to civilians on the ground.

The mishap aircraft (MA) was scheduled to fly a six-ship Defensive Counter Air mission, part of a Combat Air Patrol over Kadena AB, Japan, in support of the wing's on-going Combat Employment Readiness Exercise.

Prior to taxi, the MP felt a very strong vibration in the MA followed by flames shooting out the rear of the mishap engine (ME). She initiated emergency procedures at the same time ground crews extinguished the fire with a 150-pound Halon 1211 fire bottle. The damage was confined to the ME. There was significant interest by local media and politicians.

The following factors were investigated, but found not to causal: MP and ground crew training and qualifications, weather, forms documentation, FS maintenance procedures, operations tempo and experience level, FS supervision, aircraft servicing, emergency response crews, oil or fuel contamination, MP action, and aircraft systems. The mishap was in no way caused by poor aircraft maintenance procedures at Kadena AB, Japan.

The engine mishap was a chain reaction stemming from failure of a high-pressure turbine (HPT) component.

Preventative maintenance action incorporates a reinforced assembly that is borrowed technology from the F100-PW-229 engine. Currently depot is replacing the suspect assembly through attrition during overhaul.

There was insufficient evidence to determine a clear and convincing root cause for the catastrophic engine failure. However, the Accident Investigation Board found substantial evidence that a 4-inch section of the 2nd stage turbine airsealing ring assembly liberated, which was a substantially contributing factor to the engine failure.